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AUTHOR	Altalib, Hasan; Dunfee, Patricia J.; Hedden, Briana L.; Lennox, Todd J.; Marenco, Rodolfo
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ABSTRACT

This research study compares the time and effort involved in preparing and managing traditional versus online classrooms. A survey was used to collect data from professors with experience in teaching both formats. Previous studies showed that instructors spent more time and effort managing online versus traditional classrooms. Time and effort for this study were divided into seven hypotheses: instructor preparation for online courses will require more time and effort than instructor preparation for traditional courses; student-instructor interaction for online courses will require more time and effort than student-instructor interaction for traditional courses; course material maintenance for online courses will require more time and effort than course material maintenance for traditional courses; instructional time for online courses will require more time and effort than instructional time for traditional courses; assessment for online courses will require more time and effort than assessment for traditional courses; more time and effort will be spent on technical issues for online courses than for traditional courses; and graduate assistant aid for online courses will require more time and effort than graduate assistant aid for traditional courses. Results indicated no statistical significance of any of the hypotheses. (Contains 10 references.) (Author/SM)

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Running Head: INSTRUCTOR TIME AND EFFORT IN ONLINE CLASSROOMS

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A Comparison of Instructor Time and Effort between Traditional and Online Classrooms

Hasan Altalib, Patricia J. Dunfee, Briana L. Hedden, Todd J. Lennox and Rodolfo Marenco

George Mason University

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Hasan Altalib

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Abstract

This research study compares the time and effort involved in preparing and managing traditional versus online classrooms. A survey was used to collect data from professors with experience in teaching both formats. Previous studies show that instructors spent more time and effort managing online versus traditional classrooms. Time and effort for this study were divided into seven hypotheses: 1) Instructor preparation for online courses will require more time and effort than instructor preparation for traditional courses, 2) student/instructor interaction for online courses will require more time and effort than student/instructor interaction for traditional courses, 3) course material maintenance for online courses will require more time and effort than course material maintenance for traditional courses, 4) instructional time for online courses will require more time and effort than instructional time for traditional courses, 5) assessment for online courses will require more time and effort than assessment for traditional courses, 6) more time and effort will be spent on technical issues for online courses than will be spent for traditional courses, and 7) graduate assistant aide for online courses will require more time and effort than graduate assistant aide for traditional courses. Results indicated no statistical significance in any of the hypotheses. Due to a small sample of six instructors and other limitations, future comprehensive research should be conducted with a larger sample size and utilize validated instruments.

A Comparison of Instructor Time and Effort Between Traditional and Online Classrooms

Distance education has broadened over time to encompass a wide variety of course platforms: web-based, computer-based, video conferencing, audio conferencing, audiographic conferencing, CD-ROM and correspondence. There are just as many reasons learners choose to take distance education courses as there are platforms. Geographic constraints, time and employment restrictions, and some financial difficulties are factors many students face in trying to further their education. Distance education offers a viable solution to some of these issues. Among those students who benefit from distance education are adults who work full-time jobs, have families, or whose schedules generally do not allow them the time to attend class in the traditional manner. Another group of students who benefit from distance education are persons who are disabled, restricted in their mobility, and therefore find it difficult to travel back and forth to a traditional class. Finally, distance education benefits any student who for any reason would rather not attend a traditional classroom.

As distance education increasingly becomes a part of curriculums worldwide, it is deemed important to study comparisons between distance courses and those courses that are taught in a traditional setting, within the four walls of a classroom where students meet face-to-face with each other and the instructor.

> The online classroom "is a relatively recent development in distance learning. It is usually based on computer groupware, or can be operated over the Internet. In general, the student uses a local computer (usually from home) to access a range of services and facilities. These include online registration, dissemination of prepared course materials, access to online video materials, and communication with instructors, tutors, and other students via e-mail" (Matthews, 1999, p. 54).

When thinking about these differences the question is raised as to how an online "classroom" is managed. A large part of how a classroom is managed includes course planning, which is fundamental to effective instruction (Wolcott, 1993).

Due to the many benefits of distance education, it is becoming more and more a part of many curriculums at colleges and universities across the globe (NEA, 2000). There are courses that are offered in both traditional and distance education formats. Furthermore, there exist hybrid traditional classes that incorporate aspects of distance education, such as electronic discussion forums, chat rooms, and list serves as well as media lectures via television. Distance education uses the many options of multimedia available in order increase interaction between class members and enhance the learning environment.

There has been much research done that indicates that managing an online course does in fact take more instructor time and effort in planning, preparation and delivery. As evidenced in Zane, Berge and Muilenburg's (2001) survey of 1276 faculty members in higher education, they not only found that managing an online course requires more time, but that "time is consistently ranked highest in surveys of impediments to distance education" (Betts, 1998).

In a case study of instructor time and effort, (Visser, 2000) a faculty member at the graduate level maintained an eight month daily journal documenting the development and delivery of a distance course, which was compared to the estimated mean hours used by the instructor to complete major tasks for each of three other traditional master's courses of similar content and level. Several factors were measured: course content development, course adaptation for distance education, and course delivery. The preparation of the distance course syllabus took nearly double the time needed for the traditional course. This extra time was used to coordinate a mix of assignments such as readings, web searches, online discussions, student

responses posted on the web bulletin board, and improvement in the visual logic of the class calendar in order for it to be better understood by the students. Posting lectures online for the distance course required 82% more time than traditional course lectures. Also, there was a 14-hour difference in the preparation time for exams and tests due to the fact that the distance course required additional exams.

Wolcott (1993) focused on describing faculty planning in distance education. Faculty planning took the form of a time-consuming, front-end activity rather than an ongoing one, meaning instructors concentrated their planning efforts prior to the beginning of the term. Also, the faculty approached planning by moving from the general, the "big picture" of the course, to the specific details of a particular class session. The instructors made their planning decisions tangible in the form of an extended course syllabus which included course description, course goals, readings and assignments, a topic outline, handouts, copies of overhead transparencies, study questions, reprinted articles, and extensive original essays. Creating the syllabus alone shows that preparing for a distance course is a very time-consuming process that involves good time-management and organizational skills (Wolcott, 1993).

In a yearlong study conducted by DiBiase (2000), data on time and effort were collected from instructor and his assistants' records of teaching time and maintenance of two comparable university courses. DiBiase found that the results did not support the belief that an online course requires more time; however, it did show more effort was required because the distance course required more frequent attention (DiBiase, 2000). DiBiase notes that the courses in his study were mature, and therefore, his research did not include the substantial effort required to create new courses.

The National Education Association conducted a comprehensive and extensive survey of 532 faculty members in the year 2000 (NEA, 2000). The results from the data showed "teaching a distance learning course does, in fact, require more time than teaching a traditional course... Over half (53%) of distance learning faculty tells us they spend more hours per week preparing and delivering their distance-learning course than they do for a comparable traditional course" (NEA, 2000, p. 49). Forty-eight percent of faculty members who have taught specific distance courses eight times or more also indicated that they spend more time on their distance learning course compared with a traditional course (NEA, 2000).

In a combination of two studies conducted in 1997 and 1998 (Wolcott, 1999), qualitative data indicated repeatedly that faculty incurred greater time commitments teaching online verses traditional courses. The first study involved campus visits and in-person interviews with 32 individuals at four Carnegie I research institutions. The second study surveyed 993 faculty and eight academic deans at a metropolitan university in the eastern United States. Overall, these two studies identify several factors which faculty felt increased the time required to conduct their online courses: modified course planning timeline, increased instructor-student interaction, increased course material preparation and perceptions of daily course obligations.

Research stemming from time and effort issues has also looked at compensation for faculty developing or teaching distance education. In a survey performed through 8 listserves, 212 individuals from 160 institutions identified the use of various compensations for developing or teaching a distance-learning course (Schifter, 2000). The results showed 22% of faculty were often given overload pay and 21% were given release time for developing a course. Results indicated 48% sometimes were given overload pay, and 33% sometimes received release time. Finally, 23% of those interviewed indicated they never received overload pay to develop online

courses and 38% said they never received release time. Compensation for developing courses was found higher in software purchases for faculty (34%) and covering Internet Service Provider (ISP) costs (39%). For faculty teaching a distance-learning course the results showed 13% received release time and 26% were given overload pay. Faculty in the survey asserted teaching a distance-learning course was more demanding on their time than the traditional face-to-face because of increased interaction between faculty-student and student-student. Faculty felt there was the appearance of always having office hours, or class being in session continuously.

The instructor in the online classroom must motivate and engage students in the learning experience, monitor their progress, administer assignments and exams, encourage interaction and cooperative learning, answer questions and ensure achievement. The instructor must also maintain an orderly and stimulating learning environment for the students. Distance education classroom management means (a) creating individualized learning as well as group learning, (b) fostering interaction among students and between the students and instructor, (c) giving and receiving assignments on-line, (d) presenting engaging, interesting lessons, and (e) getting to know the students and their needs, reactions and abilities. The question, how much time and effort will be needed for preparation and delivery of an online course compared to that of a traditional course, is extremely important to those conducting or interested in online instruction (Visser, 2000).

The purpose of this study is to compare classroom management of the distance education classroom with that of a traditional one from the perspective of the instructor. More specifically, the study examined the time and effort instructors spent in distance education courses, and compares them to the time and effort instructors spent in traditional courses in school campus

settings. This study tested the hypothesis that instructors managing online distance learning courses spent more time and effort than instructors managing traditional setting courses.

This study is important to the future of higher education in many ways. As stated above, distance learning is becoming widely incorporated in the long-term plans of academic and corporate institutions throughout the world. With this expansion, it becomes critical to plan and acquire the necessary resources to support such an endeavor. Plans could include instructor training, hardware and software acquisition, and release time to allow instructors to adequately prepare and deliver the course material. This study will identify areas where more time and effort might be necessary in implementing and supporting online instruction. There are seven hypotheses that will be examined within this study. These are as follows: 1) Instructor preparation for online courses will require more time and effort than instructor preparation for traditional courses, 2) student/instructor interaction for online courses will require more time and effort than student/instructor interaction for traditional courses, 3) course material maintenance for online courses will require more time and effort than course material maintenance for traditional courses, 4) instructional time for online courses will require more time and effort than instructional time for traditional courses, 5) assessment time for online courses will require more time and effort than assessment time for traditional courses, 6) more time and effort will be spent on technical issues for online courses than will be spent for traditional courses, and 7) graduate assistant aide for online courses will require more time and effort than graduate assistant aide for traditional courses.

Methods

Participants

The researchers first contacted a considerable number of instructors through an instructor listserv, from which eight higher education instructors (four women and four men) from different locations volunteered to participate in this study. Of these eight volunteers, two responded, but only one filled out a survey that was used for the research. Because of this low response rate, the researchers were forced to recruit more volunteers by contacting instructors from one university identified as teaching both online and traditional courses according to the official schedule of classes. Six participants were recruited in this manner. A total of eight responses were received, one was qualitative in nature and unusable, another included only demographic information, leaving six participants whose surveys were used. The participants' ethnic backgrounds were: 66% Caucasian, 0% Native American, 16% African American, and 0% Asian, and 16% with no response. The participants had an average of 2.83 years teaching online courses and 18.3years teaching traditional courses. In addition, they had an average of 18.3 total years of teaching experience. Finally, the participants had experience teaching in the following disciplines: English, management, education, and information technology.

Materials

A survey consisting of 32 questions was used in this study. The survey was provided to each instructor in person, via e-mail or by phone. This particular means of questioning was chosen due to low response rate and to facilitate the process of data collection for both the participants and the researcher. The survey was developed by the researchers based on previous research conducted in the same subject area as this study. The studies used to develop the survey were the following: A Survey of Traditional and Distance Learning Higher Education Members

(NEA, 2000), and Faculty Planning for Distance Teaching (Wolcott, 1993). The survey consisted of 10 demographic questions and 22 questions which would yield measurements of time and effort the participants expended while teaching both online and traditional courses. The data collected were analyzed using the statistical software SPSS.

Design and Procedure

Initial recruitment of participants was accomplished by sending an e-mail to a professional online listserv to request instructors who would be willing to complete an electronic survey with questions related to measurement of time and effort spent by them while managing both an online and a traditional classroom. The e-mail also explained that participants would need to possess experience in teaching and managing both online and traditional classrooms. Once the participants were identified, they were e-mailed a copy of the survey (See appendix A). Some respondents were not able to complete the survey because they did not fully understand the purpose of the research. Once they received the survey the research question was then clarified and some of the respondents chose not to participate. When the number of respondents dropped, the researchers contacted other instructors face-to-face, via phone or by e-mail that were known to have taught in both formats.

Data were collected by using a survey method of collecting and compiling information from instructors who have had experience teaching in both settings (online and traditional courses) by having them fill out surveys face-to-face, in an electronic form or by phone. Data were analyzed by using a paired t-test on a total of seven variables. These variables were as follows: course preparation time, student/instructor interaction time, course material maintenance, instructional time, assessment time, time on technical issues, and graduate assistant time. Of these seven areas, preparation had the following sub-areas: course instructions, syllabi,

reading material, administrative, and instruction/lecture. Each of these variables was compared between online courses and traditional courses. Upon completion of the research, participants were provided with a copy of the research paper and its findings.

Results

To analyze the data, paired t-tests were used for each question to determine whether teachers who have taught both traditional and online classes tend to spend more time and effort in preparation and maintenance of online courses than in traditional course instruction. Table 1 shows the means and standard deviation for both online and traditional learning environments. In regards to the first hypothesis, teachers reported that they spent about the same amount of preparation time for online ($M = 8.36$) and traditional ($M = 7.74$) courses. No significant differences were found, $t(5) = -.22$, $p > .83$, two-tailed. The second hypothesis addressed the quantity of time spent in online ($M = 3.53$) and traditional ($M = 1.9$) courses between instructors and students; teachers reported they spent the same amount of time in each format. No significant difference was found, $t(4) = -.62$, $p > .57$, two-tailed. The third hypothesis dealt with the amount of time spent in course maintenance, whereby teachers answered the similar amounts for both online ($M = .73$) and traditional ($M = .55$) courses. No significant difference was found, $t(4) = -.83$, $p > .45$, two-tailed. For the fourth hypothesis teachers answered that they spent about the same amount of instructional time for both online ($M = 2.10$) and traditional ($M = 1.88$) courses. No significant difference was found, $t(5) = -.29$, $p > .78$, two-tailed. Teachers reported they spent almost the same amount of time for assessment in traditional ($M = .26$) and online ($M = 3.10$) courses for hypothesis five. No significant difference was found, $t(5) = -.79$, $p > .44$, two-tailed. In regards to the sixth hypothesis, teachers stated that they spent approximately the same amount of time dealing with technical issues in online ($M = .92$) and

traditional (M = .87) classes. No significant difference was found, $t(4) = -1.0$, $p > .37$, two-tailed. In the final hypothesis teachers reported they received about the same amount of graduate assistance for traditional (M = 1.92) and online (M = 1.33) courses. No significant difference was found, $t(4) = 1.15$, $p > .33$, two-tailed. There are several limitations to this study that are addressed in the discussion section.

Discussion

The results of this study do not support the hypotheses that instructors spend more time and effort in managing and teaching online over traditional classes. The means, however, indicate that instructors tend to report spending more time and effort in online classrooms.

Participants reported spending about the same amount of preparation time for online and traditional courses; in addition, student/faculty interaction time spent in online and traditional courses was approximately the same. Participants reported spending similar amounts of time with course maintenance for both online and traditional courses Furthermore, participants reported that they spent about the same amount of instructional time for both online and traditional courses, and almost the same amount of time for assessment in traditional and online courses. In regards to the time participants spent dealing with technical issues in online and traditional classes, they reported approximately the same amount of time. Finally, participants reported they received more graduate assistance for traditional than online courses.

However, the researchers felt that the study had some flaws, which may have invalidated the results. It was found that some participants expressed difficulty interpreting the survey and made assumptions of the meaning of certain questions. This is a result of the fact that the research team developed the actual survey instrument that was used. A standardized, proven survey instrument was sought, but was not attainable. This led to a number of issues, which

included response errors, unclear or misunderstood questions, and instructions that were not properly developed to assist the respondent in answering the questions. It was concluded that this problem with the surveys could be considered a confounding variable, which affected the internal validity of the study and which compromised the results reported by the participants. The results may be reporting different aspects not necessarily pertinent to the same issue being researched by the questions in this study. Also, the researchers failed to take into account the class size differences between the courses compared.

As the data were analyzed and results were compiled, it was noted that many limitations regarding the data exist, and in turn have affected the overall reliability of the research. Due to the time constraints associated with conducting the study, the researchers were not able to receive more than eight responses, even though the survey had been sent out to a listserv that includes hundreds of members. From the eight surveys received, one was unusable because the respondent did not complete the full survey, and one included a number of qualitative responses, which cannot be factored into the quantitative statistical data analysis. Furthermore, it is felt that the small sample size may also have compromised the internal validity and external validity of the study. All together, the study was based on six participants, which the researchers considered was not a big enough sample to produce valid data for this study. It was also concluded that the small sample researched would have made it impossible to generalize the findings of this study to other populations, even if the internal validity of the study had not been compromised by both the size of the sample and by the ambiguity of the survey, affecting in this manner the external validity of the study.

The researchers must also note that the data gathered were from professors with varying degrees of experience in teaching and managing online courses, from professors teaching at

assorted institutions with varying degrees of technology infrastructures. The professors provided data for courses that were at different academic levels and in different subject matter. The professors' responses to time spent on each variable were not based on actual time logs or journals that they kept while teaching and managing the course, but were based on the professor's recollection of estimated time spent.

Regardless of the inability to draw conclusions out of this study given that its internal and external validity were compromised, the researchers felt that the study does contribute to the field of classroom management in that it addresses the question of time and effort spent preparing and managing online versus traditional classes. The researchers concluded that the survey they created could be used in future studies if the questions were revised for better internal validity and reliability. Finally, the researchers felt that the format of the study was sound, and that it could be used for future studies involving a larger sample of instructors, which would result in higher levels of validity and reliability.

In conclusion, the present study with its limited sample size did not offer any conclusive statistical evidence indicating that online courses did in fact require more time and effort from instructors. As the study progressed the researchers identified areas of impact on the study, which could not be addressed due to imposed time constraints. A number of these issues included: identifying instructors who taught the same course in the two different formats; finding instructors who taught the same size class in both environments; and having instructors methodically track the time they spend on managing each format in predefined areas. Our research, through its many limitations, provides effective guidance on what issues and factors need to be considered when conducting another study of the same sort. Future research should be conducted relying on a larger sample size from various educational institutions. In addition,

using validated survey instruments for data collection will be crucial in minimizing response error and maximizing data validity. Future validated studies on this topic are important in helping future educators in the realm of distance education classrooms.

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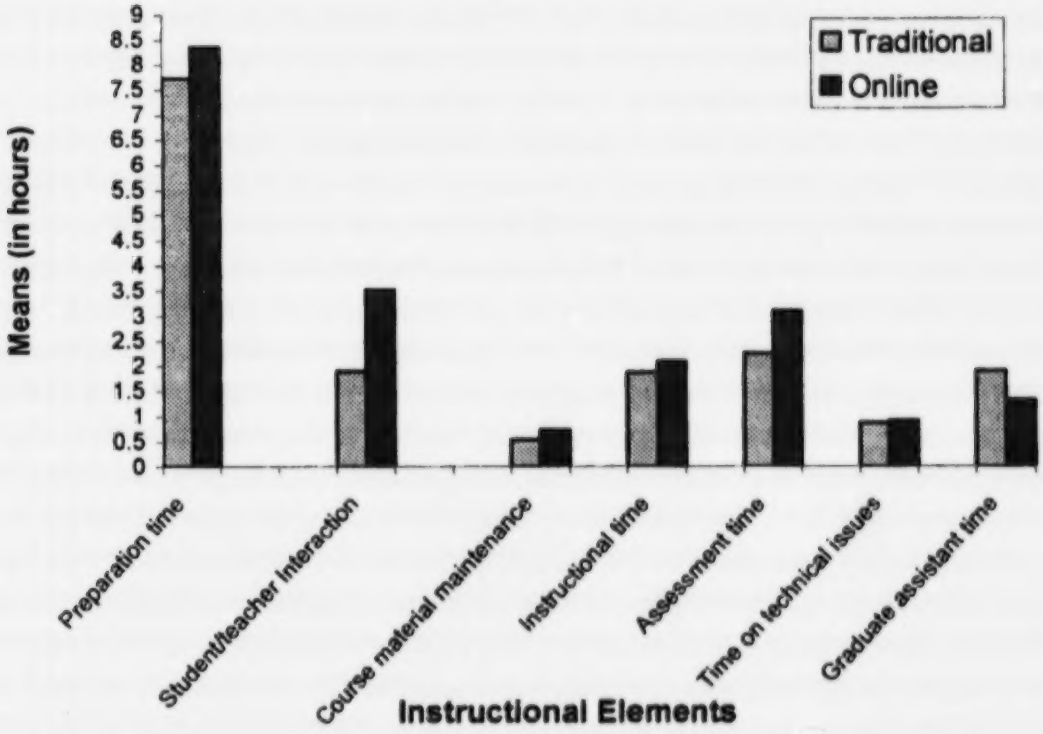
Table 1

Faculty time and effort in traditional and online courses

	Traditional		Online		t	p
	Mean	Standard Deviation	Mean	Standard Deviation		
Preparation time	7.74	4.23	8.36	5.62	.22	.83
Student/instructor interaction time	1.90	1.14	3.52	6.43	.62	.57
Course material maintenance	.55	.42	.73	.79	.83	.45
Instructional time	1.88	1.10	2.10	.83	.29	.78
Assessment time	2.26	1.81	3.10	3.5	.84	.44
Time on technical issues	.87	1.26	.92	1.23	1.0	.37
Graduate assistant time	1.92	2.68	1.33	2.62	1.12	.33

Figure Caption

Figure 1. Faculty time and effort means for traditional and online courses.



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